

ABSTRACT OF THE DISCLOSURE

[0065] A brain stimulation lead such as a deep brain stimulation (DBS) lead is provided, which lead can also be used to create lesions safely and effectively due to inclusion of temperature sensing. The generating of radio-frequency (RF) lesions via a brain stimulation lead provides a new treatment option, for instance, when hardware-related or other complications necessitate lead removal. An existing implanted DBS lead was used to create lesions in the thalamus and subthalamus of patients with movement disorders. Various brain stimulation leads with temperature sensors are described. Various methods are disclosed, including creation of a lesion with a brain stimulation lead while sensing temperature with a sensor implanted as part of the lead or with a noninvasive sensing device. Another method includes creating a graduated lesion with a brain stimulation lead of the invention or with a chronic lesioning lead.